



**NASA ACADEMY AT MARSHALL
SPACE FLIGHT CENTER**

**PROFILE BOOK
2006**



Michael Griffin, NASA Administrator

"This is NASA's vision for the future. Our mandate is:

- To improve life here,
- To extend life to there,
- To find life beyond

So, how do we get to that impressive picture of the future? Part of the answer is by executing NASA's mission:

- ***To understand and protect our home planet***
- ***To explore the Universe and search for life***
- ***To inspire the next generation of explorers
... as only NASA can."***

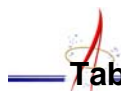


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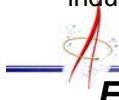
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Program Description

The NASA Academy is an intensive resident summer program of higher learning for college undergraduate and graduate students interested in pursuing professional and leadership careers in space-related fields.

The NASA Academy program is designed to present a comprehensive package of information and experiences about the organization of the NASA agency, some of its most important current and planned science, engineering, education, and technology enterprises, as well as a number of non-technical areas of critical significance, such as management, budgeting, safety, personnel and career development, leadership, space law, international cooperation, etc. Besides attending lectures and workshops, students are involved in supervised research in MSFC laboratories, and participate in visits to other NASA Centers and facilities and a number of space-related academic laboratories and industries.



Eligibility, Selection Criteria, and Placement

The 15 participants in the 2006 NASA Marshall Academy have been selected from a pool of over 1000 financially supported applicants representing 250 institutions in 41 states in the continental USA and Puerto Rico. Selection was based following criteria:

- academic rank (junior, senior, first, or second year graduate)
- academic performance (GPA higher than 3.0 or equivalent)
- demonstrated interest in the space program
- demonstrated leadership qualities
- research and/or project interest and experience
- maturity
- recommendation and references
- citizenship or permanent residence is required for US applicants

Both the selection process and placement of the Academy participants in Marshall's research groups were assisted by recommendations from faculty, administrators, academic supervisors, and co-workers, and the applicants' self-profiling essays.



A Brief History of the NASA Academy

The NASA Academy was founded in 1993 (as the "NASA Space Academy") at the Goddard Space Flight Center by Gerald (Jerry) Soffen, former Mars Viking project scientist, architect of the NASA Astrobiology program, and first Director of the Goddard Office of University Programs. Jerry was an accomplished scientist and a dedicated educator. He took advantage of the unusual opportunities presented to him during his career and realized the importance of mentoring in the life of young professionals. In his vision, the Academy was intended to exceed in purpose and content all the other regular internships by familiarizing its participants with as many facets of the NASA agency as possible. With his dynamic personality and unique leadership, he opened many gateways and defined a new standard of excellence.

"To give possible 'leaders' a view into how NASA, the university community, and the private sector function, set their priorities, and contribute to the success of the aerospace program."

*Gerald Soffen, Founder
(1926-2000)*

As the reputation of the Goddard Academy widened, new NASA Academy Programs were started at the Marshall Space Flight Center (1994), the Ames Research Center (1997), and the Dryden Flight Research Center (1997). In 2005 Goddard, Glenn, and Marshall will host their own Academy.

The name of the program changed from "NASA Space Academy" to "NASA Academy" at specific NASA Centers. A continuous effort is being made to establish or re-establish Academies at various NASA Centers, with different profiles and focus areas.

Jerry Soffen died on November 22, 2000. We honor his legacy by continuing the Academy program that he loved so well.

In 2002, the NASA Academy celebrated ten years of successful activity. So far, more than 450 students have graduated from the program, both domestic and international students.



University of Minnesota

Minneapolis, Minnesota
Aerospace Engineering and Mechanics
Bachelor of Science, May 2007

NASA Academy Research Project:

"Microwave Instrument Development for UAVs and Microsatellites"

Principal Investigator: Chip Laymon



E-mail:

ande3998@umn.edu

Permanent Address

285 111th St.
Beaver Creek MN 56116

Academic and Research Experience

- ***University of Minnesota, Minneapolis MN, May 2005 - Present***

Structures lead on the Minnesat Program, constructing a satellite entered in the Nanosat 4.

Work Experience

- ***University of Minnesota, Minneapolis MN, December 2004 - January 2006***

Provided clerical support for the accounting department for the senior vice president for Academic Affairs and Provost.

- ***Austad's Golf Store, Sioux Falls SD and Woodbury MN, April 2002 - August 2005***

Sales lead, providing customer service and closing/reconciling the books.

Memberships and Activities

- Intermural and summer softball
- Volunteer for children's school fundraising

Skills and Certifications

- Pro/E, Matlab, Dynamic C, C++

Honors and Awards

- Presidential Scholarship, Fall 2003
- Jay and Rose Phillips Family Scholarship, Fall 2003
- Joe Foss An American Hero Scholarship, Fall 2003
- Richard and Shirley Deleo Scholarship for aerospace engineering, Fall 2005

Hobbies and Interests

golf, hunting, softball, football, tennis, handball

Personal Statement

I was born in Rapid City, SD and from there lived in five different cities and three different states by the age of 8. The states included Colorado, Utah, and South Dakota. The last city and the place I lived and now call home is Sioux Falls, SD. During that time, I attended and graduated from Washington High School where I was on the golf team, Renaissance committee, FBLA, and Key club. After graduating, I started college at the University of Minnesota in Minneapolis, Minnesota.

Ever since I was a child, space has always fascinated me. As I become older and was going through school I found that math and science were my favorite subjects. When I was trying to decide on a college and a major, I was not always sure what route I was going to take. Then I came across aerospace engineering while watching "October Sky" and "Apollo 13". Ever since then working for NASA and dealing with the space program has been my ultimate goal. So, I began looking into the field and figuring out the best way to reach my ultimate goal. This year I learned about the NASA Academy and I knew that one of the ways I could begin to fulfill my dreams of working at NASA was to get my foot in the door at the Academy.



Louisiana State University

Baton Rouge, Louisiana
Physics
Bachelor of Science, May 2006



NASA Academy Research Project:

*"HELIX Instrument Development for the
Detection of Volatiles in the Lunar
Environment"*

Principal Investigator: Dennis Gallagher

E-mail:

enzal1@lsu.edu

Permanent Address:

440 N 8th St.
Ponchatoula LA 70454

Academic and Research Experience

- **LSU Center for Advanced Microstructures and Devices, Baton Rouge LA, June 2002 - present**
REU student worker, upgraded and maintained the CAMD computer control system for the linear accelerator and storage ring.
- **LA Aerospace Catalyst Experience for Students, Baton Rouge LA, August 2004 - May 2005**
Learned and applied aerospace principles to develop a high altitude balloon payload through full design cycle from PDR to data analysis, on behalf of the National Scientific Ballooning Facility in Palestine, TX.
- **National Astronomy and Ionosphere Center, Arecibo Observatory, Arecibo PR, June - August 2005**
Designed and implemented computer-controlled system for analysis and characterization of low noise amplifiers at cryogenic conditions.
- **LSU High Energy Astrophysics, Baton Rouge LA, August 2005 - present**
Student worker analyzing BATSE-detected sources with the JPL EBOP analysis method for BATSE data using IDL.

Memberships and Activities

- Sigma Pi Sigma, May 2005
- Society of Physics Students, Vice President fall 2005 - spring 2006

Skills and Certifications

- certified SCUBA diver
- intermediate skill with Russian

Honors and Awards

- Dean's List, Fall 2002 - Fall 2004
- Chancellor's List, Spring 2005 - Spring 2006
- Johnny Dardenne Texas Tigers Tournament Scholarship, Fall 2005 - Spring 2006
- Alumni Scholarship, Fall 2002 - Spring 2006

Hobbies and Interests

model airplanes, RC airplanes, computer games, reading, playing guitar, power lifting, painting, human spaceflight, rocketry, aircraft

Personal Statement

I was born and raised in Ponchatoula, LA. At the age of 16, I decided to take my academic career to the next level and applied and attended the Louisiana School for Math, Science, and the Arts. At the Louisiana School, I excelled in studies of Computer Science and Physics, receiving special recognition at graduation.

I want to attend the NASA Academy basically to have the opportunity to work and do very exciting research with NASA and begin to help make advances in space technology and to reach out to explore the cosmos. Ever since I was a child, I have been inspired by the huge rockets blasting Space Shuttles into orbit and the dream of exploring beyond our own world is in my mind every day. This love for space has pushed me to focus on programming and physics in high school, a physics degree in my undergraduate career and looking towards a graduate and postgraduate career in aerospace engineering. I hope to gain from the Academy insight into the working of NASA research, and a first glimpse into the world pushing forward our space research program, so I can see how best to suit my academic career to prepare for such work as a career.



New Jersey Institute of Technology

Newark, New Jersey
Computer Science, Mathematics
Bachelors of Science, May 2007

NASA Academy Research Project:

*"CUMRAD: A Breadboard for Cumulative
Radiation Analysis in Support of Lunar
Robotic and Crewed Mission Designs"*
Principal Investigator: Abdulnassar Barghouty



E-mail: aa84@njit.edu	Permanent Address: 2 Parker Road Plainsboro NJ 08536
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Work Experience

- **FIRST LEGO/Robotics Leagues, 2003 to present**
Volunteer mentor to underprivileged students, assisting with programming and problem solving techniques.
- **Van-Huesen, Princeton NJ, September 2002 - December 2005**
retail
- **T-Mobile, Wayne NJ, May 2005 - August 2005**
worked on maintaining reception and set up new voicemail system

Memberships and Activities

- Student Senate, Computer Science Representative, September 2005 - present
- Secretary of NJIT Red Cross Club, September 2005 - present

Skills and Certifications

- 4 years experience with C++
- 3 years experience with Java
- Microsoft XP, 2000, NT
- UNIX systems
- Microsoft Word, Excel, Internet Explorer, PowerPoint

Honors and Awards

- Member of Albert Dorman Honors College, September 2003 - present
- Faculty Scholarship, September 2003 - present
- Dean's List, January 2004 - present

Hobbies and Interests

computers, basketball, football, comedy, movies, artificial intelligence, robotics

Personal Statement

Ever since I was little, I have been amazed by space exploration. As I grew up, I wanted to be an astronaut. In high school, I found out that I enjoyed programming and the field of artificial intelligence. I took a course in A.I. and robotics in high school and found out that it was the thing for me. After taking a course in college, that was an introduction to artificial intelligence, I made my decision that I wanted to get into the field of robotics. My ultimate dream job has always been to work for NASA and to help program and design a robot that goes into space. I feel that the NASA Academy is the perfect way for me to get the knowledge and experience to fulfill my dream.



University of Tennessee

Knoxville, Tennessee
Aerospace Engineering
Bachelor of Science, May 2007

NASA Academy Research Project:

"CUMRAD - CUMulative RADiation"

Principal Investigator: Zi-Wei Lin



E-mail:	Permanent Address:
ybaalla@utk.edu	222 13th St., Apt. 10 Knoxville TN 37916

Academic and Research Experience

- ***University of Tennessee Radiology Safety Department, Knoxville TN, Spring 2002 - Spring 2003***
Radiology safety technician. Conducted lab surveys, calibrated Geiger counters, performed bioassay and thyroid tests, inspected radioactive packages for contamination, removed major spill radioactive contamination.
- ***Pellissippi State Community College, Knoxville TN, Fall 2003 - Fall 2004***
Tutored all levels of calculus, general chemistry, statics, and dynamics.

Skills and Certifications

- Microsoft Office, visual basic, AutoCAD, Mat Lab
- Fluent in Arabic and French

Personal Statement

Since I was a child, I always dreamed of holding a job that is related to space science and exploration. This dream never vanishes from my memory even in times when it seems impossible to accomplish. Today, the dream has become reality and I get to work for NASA, which I consider to be a success.

Success is doing something you love while getting paid for it, this is my philosophy in life.



Jesse Bazley

University of Idaho

Moscow, Idaho
Chemical Engineering
Bachelor of Science, May 2007



NASA Academy Research Project:

"A Pressure Drop Analysis of Different Monolith Configurations for Future Use in ECLSS Systems"

Principal Investigator: Jim Knox

E-mail:	Current Address:	Permanent Address:
bazl0032@uidaho.edu	1080 W 6th Street MSC #1935 Moscow ID 83843	6433 S Liveoak Pl. Boise ID 83716

Research Experience

- **WERC International Design Competition Team - 2006**
investigated removal of tetramethylammonium hydroxide from liquid waste collection systems

Work Experience

- **University of Idaho Department of Chemical Engineering, Moscow ID, August 2005 - present**
teaching assistant to doctor David C. Drown
- **University of Idaho Department of Campus Recreation, Moscow ID, January 2004 - present**
intramural sports official
- **Ada County Soccer Referee Association, September 1998 - May 2003**
soccer official under Janet Rydman
- **Independent Schools of Boise City, September 2002 - July 2003**
auditorium technician assistant under Jim Clark

Memberships and Activities

- AICHE, May 2005 to present

Honors and Awards

- Dean's List, 2003 - 2004
- Drown, Lyman and Ellen Chemical Engineering Scholarship, University of Idaho
- Presidential Achievement Scholarship, University of Idaho

Hobbies and Interests

building and flying small rockets, tennis, music

Personal Statement

I just finished my junior year in chemical engineering at the University of Idaho. I've really enjoyed my major classes and I am looking forward to applying that knowledge in my research project at Marshall. I have always been interested in NASA and, after learning about engineering at Space Camp, I knew that I could pursue chemical engineering and work for NASA at the same time. In the Academy, I hope to learn both advanced research skills and the inner workings of NASA.



South Dakota School of Mines & Technology

Rapid City, South Dakota
Technology Management
Master of Science, May 2007
Bachelor of Science in Mathematics, April 1977



NASA Academy Research Project:

"Tribal Earth Science Technology and Education, (TRESTE)"

Principal Investigator: Maury Estes

E-mail:	Current Address:
jlbloom@hills.net	PO Box 975 Rapid City SD 57709

Academic and Research Experience

- ***American Indian Cultures***
Researched oral histories and traditions of American Indian Tribes. Extensive reading and research, also attend powwows, trading posts, art markets and galleries, museums, sacred sites, and Lakota language classes.

Work Experience

- ***Data Analyst, National American University***
- ***Event Producer, Black Hills PowWow Art Expo***
- ***Programmer Analyst, Black Hills Workshop***
- ***Software Engineer, American Memorial Life***
- ***Data Security/System Administrator, Loral Space Information Systems***
- ***Data Security/System Administrator, Boeing Aerospace Operations***
- ***System Analyst, Ethicon, inc.***
- ***Programmer Analyst, General Telephone of the Southwest***
- ***Programmer, GTE Data Services***

Skills and Certifications

- proficient in a wide variety of computer hardware and software

Honors and Awards

- maintains 4.0 GPA during master's program in Technology Management at South Dakota School of Mines and Technology (school does not maintain dean's/president's lists)

Hobbies and Interests

space related topics, reading, walking, listening to jazz, public radio, American Indian visual art, powwows, refurbishing lamps, recycling antiques, preparing and sharing meals with friends

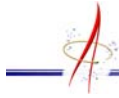
Personal Statement

For over six years, I worked with NASA through aerospace contractors. During that time, I made numerous contributions to various projects. I am dedicated to return to an association with NASA.

I am a high energy, resourceful individual able to invest passion and commitment into seeing a task completed. My education and professional background has honed my organizational and problem solving skills, enabling me to work independently as well as an effective team player. I have used these qualities during my 20+ years of professional experience in business and government, including over six years with NASA, managing project/program development from origin through implementation.

I instinctively gravitate toward new information pertaining to anything involving space exploration. I continue to have a strong interest in the space program and its success. Among the program's successes is the development of numerous secondary applications of space technology benefiting our daily lives. Future developments require knowledgeable technology managers.

Participation in the NASA internship program will assist me in developing a more comprehensive skill set providing additional tools to contribute in the space program and assist in its successful continuation.



University of Kansas

Lawrence, Kansas
Aerospace Engineering
Bachelor of Science, May 2007



NASA Academy Research Project:

*"Development of Improved Damage
Tolerance Capabilities of the Core/Facesheet
Bond in Composite Honeycomb Sandwich
Structures"*

Principal Investigator: Alan Nettles

E-mail:	Current Address:	Permanent Address:
jen323@ku.edu	1529 W 9th St. Apt. 6A Lawrence KS 66044	2128 Cambridge Leavenworth KS 66048

Academic and Research Experience

- **University of Kansas, Lawrence KS, January 2006 - May 2006**
Independent student group research of Stirling engines, possibly leading to AIAA paper.
- **University of Kansas, Lawrence KS, June 2005 - December 2005**
Manufactured carbon-fiber composite mirror blanks for NASA research under direction of Dr. Hale.

Work Experience

- **Northrop Grumman, Summers of 2002, 2003, 2004**
Key entry operator.

Memberships and Activities

- Publicity Officer and Design Team Lead, Rocket Systems Development Organization, University of Kansas Chapter
- Engineering Student Council, University of Kansas
- Former President, American Institute of Aeronautics and Astronautics, University of Kansas Student Chapter
- President, American Astronautical Society, University of Kansas Student Chapter
- Member, Society of Women Engineers, University of Kansas Chapter

Skills and Certifications

- Microsoft Windows, Macintosh OS
- Unigraphics NX3
- Finite element analysis with patran-nastran
- C++
- composite layup, tooling, and deflashing experience

Honors and Awards

- Bob and Marlene Whittaker Leadership Scholarship, 2002

Hobbies and Interests

- knitting, swimming, playing the flute, cooking, amateur rocketry

Personal Statement

As a child, I was raised on military bases in Greece and Germany by my father who is a civil engineer for the US army and my mother who is from the Netherlands. My parents got me interested in science at a young age. I attended science camps as a child and later in high school I attended engineering expo at the University of Kansas. I have always been fascinated with space and space exploration and with my degree I hope to be able to impact the field.

I am currently taking a space oriented curriculum here at the University of Kansas for aerospace engineering. Attending NASA Academy gives me the opportunity to work with experts in NASA facilities. I believe that work for NASA researchers will provide me with research skills I can apply to whichever discipline I choose to pursue.

NASA has always been a leader in space exploration and I hope that I can learn more about NASA through this opportunity. I am looking forward to the many speakers and special presentations this summer. NASA Academy is such a unique experience; not only does it allow a young engineer to work with outstanding researchers and cutting edge facilities but it is also a chance to make connections in the aerospace field.

My greatest hope for this summer is to leave with a better understanding of NASA and its goals in the New Vision for Space Exploration. I hope to form lasting connections with my NASA advisor as well as my peers in the NASA Academy.



Yale College

New Haven, Connecticut
Astronomy and Physics
Bachelors of Science, May 2008

NASA Academy Research Project:

"Constraining the Magnetic Field of Accretion-Powered X-Ray Pulsar EXO 2030+375"

Principal Investigator: Colleen Wilson-Hodge



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morgan.dwyer@yale.com	P.O. Box 204495 New Haven CT 06520	1754 Biesterfield Rd. Elk Grove Village, IL 60007

Academic and Research Experience

- **Yale University, New Haven CT, January 2005 - present**
Independent research into muon lifetime on Carbon-12 under Professor Bonnie Fleming's Yale High Energy Neutrino Group.
- **Fermi National Accelerator Laboratory, Batavia IL, May 2005 - August 2005**
Summer intern constructing Fortran code for ROOT and analyzing data from MiniBooNE detector, in support of muon lifetime studies.

Work Experience

- **Admissions Office, Yale University, New Haven CT**
Undergraduate recruitment coordinator, student ambassador.

Memberships and Activities

- Vice President, National Honor Society, James B. Conant High School
- Member, Trinity Academy of Irish Dance

Skills and Certifications

- programming experience with Fortran and Root
- public speaking experience

Honors and Awards

- Robert C. Byrd Academic Scholarship, 2004 - present

Hobbies and Interests

running, competitive Irish dance

Personal Statement

In third grade, my class began a science unit about space, and upon its conclusion, like several other students in my class, I decided that I wanted to become an astronaut. I attended Parent and Child Space Camp that summer, and the experience confirmed my dream. My parents allowed me to pursue my childhood folly by allowing me to attend Space Camp for the next five years. But, unlike the other campers, who attended for the thrills of the simulators and the freedom of living away from home for a week, I treated my weeks at Space Camp as pre-astronaut training. I took the success of our simulated missions seriously and was offended when fellow campers did not share my concentration. But, eventually, those fellow campers outgrew Space Camp, and with it, their desire to become astronauts. I remember one friend described her decision to not pursue a career as an astronaut, not as giving up a dream, but as "becoming realistic".

Today, as I gaze into the heavens, I see no reason to become realistic; the problems of warped space-time and dark energy are too fantastically surreal to be understood by earthly realism. I see no reason to abandon my dream of becoming the first person on Mars. I will never outgrow my passion for space travel.

Since elementary school, I have been on the trajectory towards a career path with NASA. I have chosen hobbies and academic pursuits which fit that path and prepare me for a career as an astronaut and a NASA administrator. NASA Academy is the college-version of the Space Camp of my youth, and as such, it presents the next logical preparation for my future. Selection for NASA Academy will allow me to finally share my life-long passion for space travel with the agency I have so long idolized. Involvement in the Academy will allow me to formally introduce myself to the organization to which I plan to dedicate my life.



Florida Institute of Technology

Melbourne, Florida
Astronomy/Astrophysics
Bachelor of Science, May 2007

NASA Academy Research Project:

*"Detailed Analysis of BATSE Spectral Data
Following Strong Solar Flares"*

Principal Investigator: Jerry Fishman



E-mail:

aherron@fit.edu

Permanent Address:

6541 Leader Drive
Jacobus PA 17407

Academic and Research Experience

- ***Olson Research Group, Florida Institute of Technology Chemistry Department, January 2005 - present***
Research Assistant, pioneering a method for chemically etching extra-sharp gold STM tips, analyzing radius of curvature using SEM, computational chemistry.
- ***ISRU Design Team, Florida Institute of Technology, November 2004 - May 2005***
Member of Concepts of Operations and Public Relations groups. Researched, designed, and built a robotic arm and test chamber to test processing of lunar soil to obtain oxygen.
- ***Intel International Science and Engineering Fair, Dallastown PA, September 2002 - May 2003***
Researched spectroscopy, published results as "Spectroscopy Never Sounded So Good" in 53rd ISEF Abstract Book, 2003.

Work Experience

- ***Dallastown Area School District, Dallastown PA, 2003-2005***
40 hr/week summer paint crew for Maintenance Department
- ***Florida Institute of Technology Evans Library, Periodicals Department, Melbourne FL, 2003 - 2004***
student assistant
- ***Private Clarinet Teacher, self-employed, 2001 - 2003***

Memberships and Activities

- American Physics Society, 2003 - present
- Students for the Exploration and Development of Space, 2003 - present
- Society of Physics Students, 2003 - present

- Florida Institute of Technology Astronomical Society, 2003 - present
- Phi Eta Sigma Honor Society, 2003 -present
- Florida Space Academy, 2005 - 2006
- Sigma Pi Sigma, 2006 - present

Skills and Certifications

- leadership
- SEM, STM
- American Red Cross Certifications: Emergency Response, Oxygen Administration for the Professional Rescuer, AED, Infant, Child and Adult CPR for the Professional Rescuer, Preventing Disease Transmission
- Microsoft Word, PowerPoint, and Excel, LoggerPro, Graphical Analysis

Honors and Awards

- Eagle Scout, 2001 (Bronze, Gold, and Silver Palms)
- James G. Potter Award for Excellence in Physics, 2005
- Venturing Silver 2005, Ranger Scout 2005, Vigil Honor Member 2004
- Fourth Place Grand Award and Honorable Mention from American Physics Society at Intel International Science and Engineering Fair, 2003
- 6/6 completed semesters on Dean's List

Hobbies and Interests

playing clarinet, tenor saxophone, ukulele, and harmonica, listening to music, running, canoeing, biking, swimming, hiking, backpacking, camping, scouting, amateur astronomy, photography, spending time with family and friends

Personal Statement

The simplest way to describe me is a Boy Scout at heart with a musician's soul. My experiences in Tiger Cubs, Cub Scouts, Boy Scouts, and Venturing shaped my life and character as I climbed the trail to Eagle and Ranger and continue to provide me a moral compass and wealth of leadership experience. Music has been one of the great guiding forces in my life. Throughout my life I have involved myself in every musical opportunity I could, picking up new instruments along the way. If scouting is my excitement and music is my sanity, the love of my life is astronomy and physics. I have always worked towards being an astronaut, and along the way I fell in love with the stars. Very simply I love to hike in the mountains, swim in the sea, wonder at the night sky, and lose myself in my music.



University of Florida

Gainesville, Florida
Physics and Mathematics
Bachelors of Science, May 2006

NASA Academy Research Project:

*"Defining the Lunar Pole Environment in
Support of Project Constellation"*

Principal Investigator: Jonathon Campbell



E-mail: kvaltine@gmail.com	Current Address: 3461 SW 2nd Ave. Apt. 122 Gainesville FL 32607	Permanent Address: 4135 NW 46th Ave. Gainesville FL 32606
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Academic and Research Experience

- ***Research Experience for Undergraduates, Dalian, China***
Researched multipurpose materials using finite element analysis with ANSYS.
- ***University of Florida Accelerator Lab, spring 2004***
Maintained high vacuum equipment and troubleshot Pelletron Electrostatic Accelerator under Dr. F. Eugene Dunnam.

Work Experience

- ***University of Florida, Physics Department, Fall 2003***
physics tutor
- ***Private Tutor, 2003 - 2004***

Memberships and Activities

- Society of Physics Students

Skills and Certifications

- C++ and Java
- Moderate Spanish, beginning Mandarin Chinese
- Microsoft Word and Excel
- Maple (symbolic manipulation program)
- machine shop and electronics skills

Honors and Awards

- Eagle Scout
- National Merit Scholar
- International Baccalaureate Diploma Recipient
- Anderson Scholar with Highest Distinction
- Dean's List, Fall 2002, Spring and Fall 2003, Fall 2004

- Massey Scholar
- Bright Futures Scholarship

Hobbies and Interests

cycling, sailing, playing guitar, learning Chinese

Personal Statement

I was born and raised in Gainesville, Florida. I currently attend the University of Florida, where I am pursuing a double major in Physics and Math. When I'm not doing homework, I like to cycle and play guitar, although I'm not great at either. The accomplishment I am most proud of is becoming an Eagle Scout, because it represents dedication and hard work, and taught me to aspire to great things. I have been fascinated by space for as long as I can remember. To me, space exploration is an expression of our hope for the future and our innate curiosity. I feel a need to contribute in some way to society using my talents in science and engineering.

I want to attend the NASA Academy because it offers a unique experience that I would not be able to get from universities or industry. Particularly appealing to me is the fact that both a group project and an individual project are part of the program. Research these days is becoming more and more a collaborative effort, and experience working in teams is invaluable. However, besides just offering a stimulating research environment, the NASA Academy will provide me with a new perspective on NASA as an organization. NASA is an attractive organization for doing research and I would like to understand better how it works.

I am interested in NASA and the aerospace program because it is an organization that is striving to create a better future. NASA programs have an immeasurable impact on our lives today, and are paving the way for completely expanding the reach of humanity. Also, NASA is helping to bring together people from different countries by promoting cooperation in large ventures such as the International Space Station. While NASA does create a better future for us, it also promotes and takes part in some of the most interesting research going on in our country. There is something extraordinarily cool about hypersonic scramjets, ion drives, and sending probes to other planets.



Whitney Plumb

University of Michigan

Ann Arbor, Michigan
Atmospheric, Oceanic, and Space Science
Engineering
Bachelor of Science, June 2007

NASA Academy Research Project:

*"Design of an Electron Focusing Column for a
Miniature Environmental Scanning Electron
Microscope (mESEM)"*

Principal Investigator: Jessica Gaskin



E-mail:	Permanent Address:
whitplum@umich.edu	1991 Valley Brook Dr. Okemos MI 48864

Work Experience

- **Recreational Sports Building, University of Michigan**
Building supervisor, handling maintenance, dealing with emergencies, opening/closing building, supervising employees.
- **Physical Therapy Office**
Administered therapeutic massages, operated ultrasound equipment, supported therapy services for injured and disabled patients.

Memberships and Activities

- National Honor Society
- University of Michigan Astronomy Club (student astronomical society)
- Alpha Phi Omega (national co-ed service fraternity)
- WISE (Women In Science and Engineering)
- Students for the Exploration and Development of Space (SEDS)

Skills and Certifications

- C++
- Matlab
- Maple
- First Aid and CPR certified

Hobbies and Interests

playing the clarinet, astronomy club, reading, traveling, photography, running

Personal Statement

I was born in Lansing, Michigan and grew up in Okemos, Michigan, a small town outside of Lansing. I have always been incredibly close with my parents and older sister, and they have always supported me in everything I have attempted and done, especially when it comes to academics. I grew up playing every sport known to man, my mom desperately wanting me to get involved in everything, and I was also a Brownie (a pseudo Girl Scout). School took me from Montessori pre-school, to elementary school where I was placed in advanced classrooms for a couple of years and was treasurer on the student council in the 5th grade. Middle school and high school were centered around sports and academics.

However, space science has inspired me since I was a star struck little girl gazing up at the moon. I began as a student in the Literature, Science, and Arts program here at U of M working towards a concentration in astronomy. After about a year however, I became more and more interested in the mechanics behind that technology that allow us to make strides and advancements in scientific understanding, as well as the equations and calculations that breathe fire into the workings of our universe. Working towards that goal has been intimidating, but well worth the challenge. I have gone from being a rambunctious little girl, to balancing athletics and academics in high school, and I have finally landed myself within the career path that I have always dreamed about.

NASA has never ceased to amaze me with the discoveries and advances that they are making every day. Many of the professors I have worked with in the AOSS department have been closely affiliated with NASA for many years and I have always been deeply impressed and intrigued by their work, particularly with the space probe missions to Jupiter that my professor, Sushil Atreya, has been working on for years. Space Science has always been a passion of mine, and consequently I never give up on my work when it comes to research and problem solving within this field. I am sure I have so much to learn, and I am honored to be mentored by scientists within the NASA Academy.



Michelle Prewitt

Texas Christian University

Fort Worth, Texas
Physics and Mathematics
Bachelors of Science, May 2006

NASA Academy Research Project:

"A Study of Silicon Cosmic Ray Detectors"

Principal Investigator: Mark Christl



<u>E-mail:</u>	<u>Current Address:</u>	<u>Permanent Address:</u>
m.v.prewitt@tcu.edu	TCU Box 29412 Fort Worth TX 76129	651 Private Road 7063 Buna TX 77612

Academic and Research Experience

- ***Texas Christian University, Fort Worth TX, Fall 2005 - present***
Undergraduate research work in atomic-molecular physics. Worked for Dr. C.A. Quarles studying the efficiency of solid state x-ray detectors.
- ***Research Experience for Undergraduates Program, Rice University, Houston TX, Summer 2005***
Undergraduate research work with controlled growth of single-walled carbon nanotube fibers in the Carbon Nanotechnology Laboratory under Dr. Richard Smalley.

Work Experience

- ***Physics and Astronomy Department, Texas Christian University, Fort Worth TX, Fall 2003 - present***
tutor
- ***Oscar E. Monning Meteorite Gallery, Fall 2003 - present***
assistant

Memberships and Activities

- American Physical Society, Fall 2005 - present
- Alpha Lambda Delta National Honor Society, Spring 2003 - present
- National Society of Collegiate Scholars, Spring 2003 - present
- Golden Key International Honor Society, Fall 2003-present
- Pi Mu Epsilon Mathematics Honor Society, Spring 2004 - present

- Society of Physics Students, member Fall 2002 - present, president Fall 2003 - Spring 2004, secretary and Physics Olympics coordinator Fall 2004 - present

Honors and Awards

- Outstanding Undergraduate Research Presentation, Texas Section American Physical Society, Fall 2005
- Dean's Honor List, Fall 2002 - Spring 2005
- Texas Christian University Scholar, Fall 2002, Fall 2004, Spring 2005
- Newton Gaines Scholarship in Physics, Fall 2002 - present
- Texas Christian University Academic Achievement Scholarship, Fall 2003 - present
- Joseph Morgan Scholarship, Fall 2004

Hobbies and Interests

reading, rock climbing, soccer, dance, space, camping, sewing

Personal Statement

NASA Academy offers the best overview I can imagine of all of NASA's complex and interesting inner workings. Attending NASA Academy would be one of the best ways I could think of to become familiar with the research, operational procedures and people of NASA. Even as a young child I knew that I wanted to be an astronaut. I had dreams of being the first woman on the moon and the first person on Mars. As an eighth grader, I decided that I could best achieve these goals if I pursued a PhD in aerospace engineering. I would still love to be an astronaut, and I hold onto the dream of being the first woman on the moon. Now I allow myself to consider other paths to reaching my goals. The idea of doing research has recently become much more appealing to me.



Cody Short

Brigham Young University

Provo, Utah
Physics, Astronomy
Bachelors of Science, December 2006

NASA Academy Research Project:

*"Calibration and Testing of VUV Optics/TVLS
Gratings for the SUMI Rocket Payload"*
Principal Investigator: Jim Spann, Ed West



<u>E-mail:</u>	<u>Current Address:</u>	<u>Permanent Address:</u>
crayshort@hotmail.com	7202 University Station Provo UT 84602	402 S Hornet Ck. Rd. PO Box 762 Council ID 84612

Academic and Research Experience

- **Brigham Young University, 2004 - present**
Astronomy research assistant to student astronomers.
- **Brigham Young University, 2004 - present**
Telescope photometry and IRAF data reduction.
- **Clearwater Research, Boise ID, April 1999 - June 2001**
Health study data collection for the CDC.

Work Experience

- **Office of Information Technology, Brigham Young University, 2004 - present**
technician/customer support
- **Forest Service, United States Department of Agriculture, June 2001 - August 2001**
forestry aid
- **Council School District, August 1996 - May 2001**
information technology coordinator's assistant

Memberships and Activities

- Brigham Young University Astronomical Society, member 2004-present, vice president January 2005 - August 2005, librarian August 2005 - present
- High School National Honor Society, chapter president Fall 1999 - May 2001
- Boy Scouts of America, member 1995 - 2001, senior patrol leader 1999 -2000, Eagle Scout March 2000
- Planetarium show volunteer

Skills and Certifications

- telescope operation and data reduction
- Windows/Macintosh
- hardware/software troubleshooting and networking experience
- Microsoft Office, Novell
- basic Java and C++
- basic Spanish
- CPR and first aid training via Boy Scouts of America

Honors and Awards

- Valedictorian Council High School, class of 2001
- Eagle Scout Award, Troop #319
- Bicentennial Scholar, Brigham Young University Undergraduate Scholarship Committee
- Idaho Robert C. Byrd Honors Scholarship
- Dean's List, Fall 2004

Hobbies and Interests

stargazing, stellar interiors, extragalactic astronomy, computer hardware/software, comic books, science fiction

Personal Statement

Coming from a varied background I am primarily an adaptable individual with interests piqued by challenge and the unknown. Raised by my maternal grandparents in a small Idaho town I learned quickly that to excel in life I would most definitely have to apply myself. I have ever since striven to do just that. I am about to begin my fourth year of study in physics and astronomy. I have found these studies to require a great deal of effort and perseverance. Standing on the precipice of a "real life" I now seek to prepare myself by applying the knowledge that I am acquiring in a practical way.

The opportunity to learn the practical skills afforded by this type of internship is difficult to come by. It is something I am ecstatic to have. My career goals and my life's aspirations are in harmony in this point - I want to be a part of where we have not been. This desire to be a positive force in humankind's progress basically sums up who I am.



Yvonne Torres

New Mexico State University

Las Cruces, New Mexico
Physics
Bachelors of Science, May 2005



NASA Academy Research Project:

"Comparison of North Alabama Lightning Mapping Array Data with the National Lightning Detection Network Data To Distinguish Difference Between Cloud-to-Ground Lightning and Intra-Cloud Lightning Detection"
Principal Investigator: Rich Blakeslee

E-mail: yvtorre@nmsu.edu	Permanent Address: 114 S Fairacres Rs. Las Cruces NM 88005
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Academic and Research Experience

- **University of New Mexico, present**
Building organic photovoltaic devices under Dr. Seamus Curran. Studying electrical, optical, thermal, and physical properties of carbon nanotubes, laser dyes, and assorted polymers.
- **Wake Forest University, Summer 2005**
Studied optical properties of solutions for producing organic photovoltaic devices.
- **Clyde W. Tombaugh Observatory, University of New Mexico, Summer 2004**
Researched extra-solar planets under Dr. James Murphy, via Ronald E. McNair Award. Planet HD 209458b was detected.
- **Research Experience for Undergraduates, Institute of Astronomy, Oahu HI, Summer 2003**
Imaged night sky, created a database in MySQL for processing, flagged variable stars to detect extra-solar planetary systems. Also searched for Near Earth Objects, identifying one meteor.
- **NASA Planetary Data Systems Atmospheres Node, New Mexico State University, Summer 2002**
Processed images of Mars, Jupiter, and Saturn using IDL and C coding to insert label headers.

- ***New Mexico State University Physics Department, Summer 2001***

Constructed Bessel function demonstrator under Dr. Stephen Kanim. Rebuilt a bass drum with a stretched membrane, internal speakers, an amplifier and a frequency generator, and used a stroboscope to "freeze" sound waves on the drum.

Memberships and Activities

- Society of Physics Students, 2001 - 2004
- Spanish education program in Spain, Summer 2001
- Sundancer, NMSU Pride Marching Band, 2000 - 2001

Skills and Certifications

- IDL, C, FORTRAN programming
- X Vista, xv, ds9, IRAF, skycalc
- experience with Raman, UV/VIS, and IR spectroscopic machines
- fluent in Spanish

Honors and Awards

- Bridge to Doctorate Fellowship, 2005 - 2007
- Alliance for Minority Participation Award, 2001 -2002 and 2004 - 2005
- McBride Scholarship, 2004 - 2005
- Lottery Scholarship, 2000 - 2005
- Ronald E. McNair Scholar Award, 2003 - 2004
- McBrd Scholarship, 2003 - 2004
- Williams Scholarship, 2002 - 2003
- Las Cruces Public Schools Helwig Scholarship, 2000 - 2002

Hobbies and Interests

space, telescopes, playing piano, hiking, biking, rollerblading, Ayurveda (an ancient Indian healing tradition), dance

Personal Statement

My ambition is to work for NASA and become part of the space program. The NASA Academy will provide me with the experience needed to prepare myself for a future career in the industry. From the NASA Academy, I intend to enhance my experience and understanding of research and development.

I am inspired by space exploration and the latest NASA technologies. Obtaining my degree in physics, and my past research experiences, have encouraged me in applying myself to the space program.



Jonah White

University of Minnesota

Minneapolis, Minnesota
Aerospace Engineering and Mechanics
Bachelors Science, May 2008

NASA Academy Research Project:

"Actuated Fluid Control Rates"

Principal Investigator: Dean Alhorn



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jpw112@gmail.com	1625 University Ave SE Minneapolis, MN 55414	11392 Town Road 7 Northome, MN 56661

Academic and Research Experience

- ***Structures Team, Minnesat Project, University of Minnesota, Sept 2005 to present***

Designing and implementing the structure of a nanosatellite through the use of ProEngineer and ANSYS to meet approved NASA standards and requirements for the AFRL sponsored Nanosat 4 competition. Specifically worked on the computer aided design of the nanosat's subsystems to ensure structural integrity and electromagnetic interference containment.

- ***Unmanned Aerial Vehicle Project, University of Minnesota, Feb 2005 to Sept 2005***

Undergraduate researcher, implemented a computer simulation program to aid in the testing and construction of a system control configuration for a reliable and cost effective method for replacing or supplementing manned and space based platforms.

Memberships and Activities

- Beta Theta Phi House Manager (2004 to present)
- People Serving People volunteer (2005 to 2006)
- Ronald McDonald House Volunteer (2005 to 2006)
- Hope on Campus (2005)
- High School football (1997 to 2004), basketball (1995 to 2002), track (1999 to 2003), golf (2003 to 2004)
- Spanish Club President (2003 to 2004)
- Senior Class President (2003 to 2004)
- National Honor Society Treasurer (2003 to 2004)
- Knowledge Bowl Captain (2000 to 2004)

Skills and Certifications

- ProEngineer
- C++
- Microsoft Word, Excel, Powerpoint,
- Mathematica
- Food Safety Manager Certification

Honors and Awards

- Dean's List, three consecutive semesters
- North Itasca Electric Cooperative Scholarship, 2005 - present
- Boeing Company Scholarship, 2006
- Minnesota Gold Scholarship, 2004 - present
- Alworth Scholarship, 2004 - present
- Border Lakes Scholarship, 2004 - current
- Vernon J. Pick Scholarship, 2004 - 2005
- Leonard Kucera Scholarship, 2004 - 2005
- Presidential Freedom Scholar, 2004
- Head Start Region V Scholarship, 2004

Hobbies and Interests

model airplane flying, flight simulation

Personal Statement

Ever since I was a little child, I have time and again watched space shuttles being launched into space. Since then, my interest in spaceflight and innovative spaceflight technology has dramatically increased. I now fervently read and pursue the latest articles relating to the aerospace industry and astronomy. Now that I'm a student in the aerospace engineering program at the University of Minnesota, my interest in working in first class laboratories on the latest space technologies has reached new heights. That being said, I can think of absolutely no better place to devote my skills, time, and heart than the world's leader in astronautics, NASA. With this wonderful opportunity, I not only hope to fulfill a lifelong dream, but to learn from the most respected authorities in the field and hone my engineering skills so that one day I might be one of those featured on Discovery magazine.

Program Director

Dr. Frank Six

Frank Six is a scientist in the Space Science Office at MSFC. He joined Marshall in 1986 as Deputy Project Scientist for Hubble, then became assistant to the Director of the Space Science Laboratory and then deputy to the Chief Scientist. He directed the Marshall Academies in 1994, 1995 and 1996, and led all university programs from 1989 to 1996. Before coming to Marshall, Frank worked for Cornell University as assistant to the director of the Arecibo Observatory. Prior to that, he taught physics and astronomy at Western Kentucky University where he was Chairman of the Department for 17 years. Upon receiving the PhD in physics from the University of Florida, Frank joined Brown Engineering in Huntsville, Alabama working on Apollo. His research areas are radio astronomy and planetary magnetospheres. He is married with six children and eight grandchildren and loves to explore the coastal regions of the Gulf of Mexico.

Program Manager

Dr. Gerald R. Karr

Dr. Karr is a Professor of Mechanical and Aerospace Engineering at UAH. Since 1992, Dr. Karr has also served as the UAH Campus Director of the ASGC. Dr. Karr also served as the Chair of the Mechanical and Aerospace Engineering Department at UAH from 1986 through 1999. Dr. Karr has, since 1978, been the University Director of the highly successful NASA Summer Faculty Research Opportunity (NSFRO) program. Dr. Karr has also been an active researcher in the areas of satellite drag, high-energy lasers, cryogenics, spacecraft thermal design and computational fluid mechanics. Dr. Karr earned his BS (1964), MS (1966), and PhD (1969) in Aeronautical and Astronautical Engineering at the University of Illinois at Champaign-Urbana. For recreation, Dr. Karr enjoys golf, running, sailing and visiting with his children and grandsons.

Associate Program Manager

Tecie Fletcher

Tecie provides considerable support in the organization of the 2006 MSFC Academy. Her duties include handling financial issues as they pertain to the Academy.

Operations Manager

Michael Lamberty

Michael is an alumnus of the 2005 NASA Academy at MSFC. He earned a BA in physics at Gustavus Adolphus College in 1990 and has experience in aerospace engineering and patent law. In 2004, Michael entered the Sasakawa International Center for Space Architecture at the University of Houston to pursue an MS in space architecture, even though hardly anyone he meets knows what that is. He enjoys making pottery and has been known to attempt woodworking, kung fu, bookbinding, glass blowing, theatrical dentistry, horseback riding, an iron pour and other hobbies as they catch his fancy. He hopes to visit Australia and New Zealand someday; and Mars, Mars would be nice.

Assistant Operations Manager

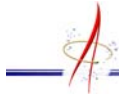
Laura Seward

Laura Seward is an alumna of the 2005 NASA Academy at MSFC. She graduated in May 2006 from Florida Institute of Technology with a Bachelor of Science in Astronomy/Astrophysics. In the fall of 2006, she will begin graduate studies at the University of Alabama in Huntsville in Physics with an emphasis on Astrophysics. In the summer of 2006, she will be working part time to assist in the operations of the NASA Academy at MSFC and will also be working part time with the National Space Science and Technology Center's Gamma-Ray Astrophysics Team researching gamma-ray bursts. She enjoys reading, writing, the beach, the Internet and having fun with friends.

Program Support and Assistant

Paula Raby

Paula serves as a management support assistant to Dr. Frank Six and she provided managerial support to the 2005 Marshall NASA Academy staff.



Links

- **NASA Academy:**
<http://www.nasa-academy.nasa.gov/>
- **NASA Academy Alumni Association:**
<http://www.nasa-academy.org/>
- **NASA Agency:**
<http://www.nasa.gov>
- **NASA Marshall Space Flight Center:**
<http://www.msfc.nasa.gov/>
- **International Space University:**
<http://www.isunet.edu>
- **The Soffen Memorial Fund:**
<http://www.nasa-academy.org/soffen/donors.html>